

# CSSE 120R—Music Delivery Rubric Team: \_\_\_\_\_

## Highlighted features are required.

You can earn points for non-highlighted features *only* if you complete all the highlighted features successfully.

For all the features, but especially for the non-highlighted features, your score on that feature can range from 0 (*not done*) to 5 (*exemplary*). For the more ambiguous features (e.g. follow an *arbitrary* line ...), *exemplary* means that you can do that feature at a very high level, while a 1 (*needs improvement*) would be the score for the simplest version of that feature.

Your score (out of 1,000) is computed as: (Team Total + Individual Total) × Contribution Multiplier but your score from Features is limited to 900 (more is great, but does not count toward your score), so the maximum possible score is 1,100 of 1,000 (i.e., 110%).

## The user can make the robot:

### Remote control:

Features (functionality)	Weight	Exemplary		Satisfactory	Needs improvement		Not done	Weight × Score
		5	4	3	2	1	0	Points
1. Be connected to and disconnected from the program	6							
2. Be reconnected to the program	3							
3. Quit the program	6							
4. Go forward/backward	6							
5. Spin clockwise/counterclockwise	6							
6. Stop moving	6							
7. Change the speeds of movement	6							
8. Move a user-supplied distance, degrees and/or time	3							
9. During movement, optionally (at the user's request) stop if bumped or ...	8							
10. Move in interesting ways beyond forward/back/spin	3							
11. Follow the loop's line per the Line Following Rules	6							
12. Follow an arbitrary line with an arbitrary darkness, with the following restrictions on the line: it has no intersections, no sharp turns, and is somewhere between 1 and 8 inches wide. You can score partial points if your robot is able to do some lines but not others.	3							

**Total possible for Remote Control: 210** points on required features, plus **100** points on additional features = **310** points

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**Highlighted features are required.**

You can earn points for non-highlighted features *only* if you complete all the highlighted features successfully.

**The user can make the robot:**

**Play music:**

Features (functionality)	Weight	Exemplary		Satisfactory	Needs improvement		Not done	Weight × Score
		5	4	3	2	1	0	Points
13. Respond correctly to music code 80	6							
14. Respond correctly to music code 81	6							
15. Respond correctly to music code 82	3							
16. Respond correctly to music code 83	3							
17. Respond correctly to music code 84 (same as “play simple song”, below)	0							
18. Respond correctly to music code 85	8							
19. Play a simple song of your own choosing, whenever asked (this is essentially the same as responding to music code 84)	6							
20. Play any of a selection of songs from which the user chooses	6							
21. Come up with and play its own <i>interesting</i> songs	6							

**Total possible for Play Music: 90** points on required features, plus **130** points on additional features  
= **220** points

**Decode GCD messages**

Features (functionality)	Weight	Exemplary		Satisfactory	Needs improvement		Not done	Weight × Score
		5	4	3	2	1	0	Points
22. Display the GCD message it received	6							
23. Display the decoded GCD message (i.e., which robot, what music code, etc)	6							
24. Handle interesting, more sophisticated messages than specified in the Requirements (you’ll need to supply GCD code if you choose to do this, as well as your robot’s code)	3							

**Total possible for Decode GCD messages: 60** points on required features, plus **15** points on additional features  
= **75** points

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**Highlighted features are required.**

You can earn points for non-highlighted features *only* if you complete all the highlighted features successfully.

***The user can make the robot:***

**Delivery:**

Features (functionality)	Weight	Exemplary		Satis- factory	Needs improvement		Not done	Weight × Score
		5	4	3	2	1	0	Points
25. Respond correctly to delivery code 70	6							
26. Respond correctly to delivery codes 71 - 79	6							
27. Respond correctly to delivery code 80	3							
28. Respond correctly to delivery codes 81 - 85	8							
29. Respond correctly to delivery codes 86 - 89	8							
30. Respond correctly to delivery code 90	12							
31. Respond correctly to delivery codes 91 - 92	3							
32. Respond correctly to delivery codes 93 - 94	8							
33. Respond correctly to delivery codes 95 - 96	8							
34. Respond correctly to delivery code 97 (unimplemented, for possible extensions)	0							
35. Respond correctly to delivery code 98 (unimplemented, for possible extensions)	0							
36. Respond correctly to delivery code 99 (unimplemented, for possible extensions)	0							
37. Deliver to multiple robots	8							
38. Find its way back to the GCD	8							
39. Do other interesting things as part of delivery	3							
40. Throw something at robots encountered along the way	8							

**Total possible for Delivery:** 60 points on required features, plus 525 points on additional features  
= 585 points

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**Highlighted features are required.**

You can earn points for non-highlighted features *only* if you complete all the highlighted features successfully.

**The user can:**

**User interface:**

Features (functionality)	Weight	Exemplary		Satis- factory	Needs improvement		Not done	Weight × Score
		5	4	3	2	1	0	Points
41. Do the basic actions (including displaying the team member's names) via a reasonable GUI	16							
42. Determine that the user interface is <i>visually attractive</i> (this will be your instructor's subjective opinion)	3							
43. Determine that the user interface <i>works nicely</i> (this will be your instructor's subjective opinion regarding ease of use, effort required to do actions and so forth)	3							
44. Do actions with a nice, <i>interesting</i> user interface beyond buttons (LOTS of possibilities here – menu's, drop-down's, sliders, progress bars, ...). Your score will depend on how nice and how <i>interesting</i> your user interface is.	12							
45. Allow devices other than the mouse (and your finger on a touchscreen) to control the robot (joystick, ...)	8							
46. Store and retrieve songs in files that the user could edit	6							
47. Store and retrieve other interesting, relevant information in files that the user could edit	6							
48. Do other <i>interesting</i> things related to the user interface	6							

**Total possible for Delivery: 80** points on required features, plus **200** points on additional features  
= **280** points

**Your ideas (suggest them to us, we'll tell you whether or not they earn points):**

Features (functionality)	Weight	Exemplary		Satis- factory	Needs improvement		Not done	Weight × Score
		5	4	3	2	1	0	Points
49.								
50.								
51. (continues on the next page)								

**Total possible for Features: 500** points on required features, plus **970** points on additional features  
= **1,470** points (*but limited to a maximum of 900 for Features – more is great, but won't increase your score*)

**Other required team deliverables:**

Deliverable	Weight	Exemplary		Satisfactory	Needs improvement		Not done	Weight × Score
		5	4	3	2	1	0	Points
52. Screen Sketch	1							
53. Release Plan for Sprint 1	3							
54. Release Plan for Sprint 2	3							
55. Release Plan for Sprint 3	3							
56. Structure Chart or other document that organizes the code for Sprint 1	1							
57. Structure Chart or other document that organizes the code for Sprint 2	1							
58. Structure Chart or other document that organizes the code for Sprint 3	1							
59. Final version of code: is decomposed into functions in a reasonable way	6							
60. Final version of code: Every module (file) has a comment at the top that lists the author(s) and briefly describes that module	1							
61. Final version of code: Every function has a doc-comment that says what that function does	6							
62. Final version of code: All code meet the standards imposed by <i>Source ~ Format Code</i> (control-shift-F) in Eclipse	3							
63. Final version of code: no magic numbers	1							
64. Final version of code: functions are reasonably sized (generally 5 to 20 lines of code, but exceptions are quite possible)	1							
65. Final version of code: there is one line (no more and no less) between each function definition	1							
66. Final version of code: meets the other coding standards that we have demonstrated throughout	1							

**Total possible for Team Deliverables (except code): 65 points**

**Total possible for Quality of Code: 100 points**

Team total: \_\_\_\_\_ of XXX.

**Other required *individual* deliverables:**

For \_\_\_\_\_

Deliverable	Weight	Exemplary		Satisfactory	Needs improvement		Not done	Weight × Score
		5	4	3	2	1	0	Points
67. Task List for Sprint 1	1							
68. Task List for Sprint 2	1							
69. Task List for Sprint 3	1							
70. Peer evaluation for Sprint 1	1							
71. Peer evaluation for Sprint 2	1							
72. Peer evaluation for Sprint 3	2							

**Total possible for Individual Deliverables: 35 points**

Individual Total: \_\_\_\_\_ of XXX.

Instructor's judgment of the degree to which you contributed to your team (your points are multiplied by this number):

Appropriately: 100%                      Not as well as we expect: \_\_\_\_\_

Your score = (Team Total + Individual Total) × Contribution Multiplier

= ( \_\_\_\_\_ + \_\_\_\_\_ ) × \_\_\_\_\_

= \_\_\_\_\_ of 1,000 (but the maximum possible score is 1,100, i.e., 110%)

**Other required *individual deliverables*:****For** \_\_\_\_\_

Deliverable	Weight	Exemplary		Satisfactory	Needs improvement		Not done	Weight × Score
		5	4	3	2	1	0	Points
73. Task List for Sprint 1	<b>1</b>							
74. Task List for Sprint 2	<b>1</b>							
75. Task List for Sprint 3	<b>1</b>							
76. Peer evaluation for Sprint 1	<b>1</b>							
77. Peer evaluation for Sprint 2	<b>1</b>							
78. Peer evaluation for Sprint 3	<b>2</b>							

**Total possible for Individual Deliverables: 35 points**

Individual Total: \_\_\_\_\_ of XXX.

Instructor's judgment of the degree to which you contributed to your team (your points are multiplied by this number):

Appropriately: 100%                      Not as well as we expect: \_\_\_\_\_

Your score = (Team Total + Individual Total) × Contribution Multiplier

= ( \_\_\_\_\_ + \_\_\_\_\_ ) × \_\_\_\_\_

= \_\_\_\_\_ of 1,000 (but the maximum possible score is 1,100, i.e., 110%)

**Other required *individual* deliverables:**

For \_\_\_\_\_

Deliverable	Weight	Exemplary		Satisfactory	Needs improvement		Not done	Weight × Score
		5	4	3	2	1	0	Points
79. Task List for Sprint 1	1							
80. Task List for Sprint 2	1							
81. Task List for Sprint 3	1							
82. Peer evaluation for Sprint 1	1							
83. Peer evaluation for Sprint 2	1							
84. Peer evaluation for Sprint 3	2							

**Total possible for Individual Deliverables: 35 points**

Individual Total: \_\_\_\_\_ of XXX.

Instructor's judgment of the degree to which you contributed to your team (your points are multiplied by this number):

Appropriately: 100%                      Not as well as we expect: \_\_\_\_\_

Your score = (Team Total + Individual Total) × Contribution Multiplier

= ( \_\_\_\_\_ + \_\_\_\_\_ ) × \_\_\_\_\_

= \_\_\_\_\_ of 1,000 (but the maximum possible score is 1,100, i.e., 110%)



**Other required *individual* deliverables:**

For \_\_\_\_\_

Deliverable	Weight	Exemplary		Satisfactory	Needs improvement		Not done	Weight × Score
		5	4	3	2	1	0	Points
85. Task List for Sprint 1	1							
86. Task List for Sprint 2	1							
87. Task List for Sprint 3	1							
88. Peer evaluation for Sprint 1	1							
89. Peer evaluation for Sprint 2	1							
90. Peer evaluation for Sprint 3	2							

**Total possible for Individual Deliverables: 35 points**

Individual Total: \_\_\_\_\_ of XXX.

Instructor's judgment of the degree to which you contributed to your team (your points are multiplied by this number):

Appropriately: 100%                      Not as well as we expect: \_\_\_\_\_

Your score = (Team Total + Individual Total) × Contribution Multiplier

= ( \_\_\_\_\_ + \_\_\_\_\_ ) × \_\_\_\_\_

= \_\_\_\_\_ of 1,000 (but the maximum possible score is 1,100, i.e., 110%)

For those interested, here is a breakdown of the points:

Category	Points available from high-lighted features (team must complete these to get other points)	Points available from additional features (but total from all features is limited to 900)	Total points available
Remote Control	210	100	310
Play music	90	130	220
Decode GCD messages	60	15	75
Delivery	60	525	585
User interface	80	200	280
<b>Total from Features:</b>	<b>500</b>	<b>970</b>	1,470 (but limited to a maximum of <b>900</b> )
Process: Team deliverables	65	—	65
Process: Individual deliverables	35	—	35
<b>Total from Process:</b>	<b>100</b>	—	<b>100</b>
<b>Quality of Code:</b>	<b>100</b>	—	<b>100</b>
<b>Total:</b>	<b>700</b>	970	1,670 (but limited to a maximum of <b>1,100</b> , i.e. to 110%)

So:

- A team that is *perfect* on all the high-lighted features, process and code, but does nothing else, scores 700 points, i.e., a bottom C.
  - High-lighted features must be completed (not necessarily to perfection) before any additional points can be earned from Features.
  - It is pretty easy to earn 100 points of 100 for process.
  - Code that is poorly documented and poorly structured, but otherwise OK, earns only 40 points of 100, for quality of code.
- Each letter grade increase (C to B, B to A, A to A+) requires about 7 additional “easy” features or fewer additional hard features. Note: “easy” is relative to the others, which range from hard to impossible.
- A team that is *perfect* on all the high-lighted features, process and code, and does all 13 of the “easy” additional features, scores 900 points, i.e., a bottom A.
- Getting to 100% or 110% requires doing some hard features.
- A team that earns the maximum possible on Features (900), and gets 50% of the Process and Quality of Code points, earns 100%. Earning 110% requires perfection on Process and Quality of Code, as well as maxing out on Features.